

Unit 9: Developmental Psychology

I. Introduction

- A. Developmental psychology is interested in how people grow and change—physically, cognitively, and socially.
- B. There are 3 major themes in human development research...
 - 1. Nature and nurture - asks how human development is influenced by genetics vs. our experiences.
 - 2. Continuity and stages - asks if human development is a gradual, continuous process (like riding up an escalator) or if it goes through a sequence of separate stages (like climbing up the rungs on a ladder).
 - 3. Stability and change - asks if our early personality traits persist through life or if we become different people as we age.

II. Conception

- A. The female is born with all her eggs that she will have for the rest of her life. Men continuously produce sperm throughout their lives.
- B. Conception is where the sperm fertilizes the outer coating of the egg.
- C. The gender is determined by the 23rd chromosomal pair.
 - 1. XX is female and XY is male. This is determined by the father.

III. Prenatal development

- A. At about 14 days, the zygote becomes an embryo, all of which are very similar. It's an embryo for two weeks, then cells begin to specialize and grow organs and a tiny heart. Organs begin to form and the heart begins to beat.
- B. By the seventh week, we see sexual differences due to tiny testes.
- C. By nine weeks, the embryo becomes a fetus and organs develop so the child can survive outside of the womb.

IV. The competent newborn

- A. Infants begin to roll over.
- B. Then they sit unsupported, crawl, and walk
- C. Before age three and a half, we don't remember anything. We then can remember and learn, but generally more implicit memories, because explicit memories are more verbal (which is beyond an infant's ability).

V. Physical development

- A. Brain cells develop very fast in the womb.
 - 1. Neural networks grow very fast after birth.
 - 2. The frontal lobe booms next, then the association areas (thinking, memory, language).
- B. Maturation is the orderly sequence of biological development.
- C. Motor skills develop in an orderly manner.
 - 1. Babies roll over, sit up, crawl, then walk—in that order. Identical twins do these things on almost the same day.
- D. Before age 3½, we have “infantile amnesia”—we can't remember.

VI. Cognitive development

- A. At some point after conception, we all gain consciousness – we become aware of ourselves and our surroundings. Our brain and our thinking gets better.
- B. **Jean Piaget** studied how our ability to think develops. Piaget believed that the human mind develops through a series of stages.
 - 1. To Piaget, our minds are always trying to make order out of what we take in through our senses.
 - 2. When we experience something, we build **schemas**. These are concepts or frameworks that organize and interpret information. They're “how things fit together.”
 - a. For example, a child forms a schema for “dog” early on – it's a furry, four-legged animal. The child may later confuse a cat with a dog, because a cat fits the furry, four-legged animal schema.

- b. As we go through life, we **accommodate** our schemas meaning that we revise and refine them.
- 3. Piaget came up with four stages of development...
 - a. **Sensorimotor stage**
 - i. This takes place from birth to roughly age 2.
 - ii. In this stage, babies "take in" the world through their senses and interactions.
 - iii. Babies here do not have **object permanence** – the realization that things continue to exist even when they can't be seen.
 - 1. This explains why the game of Peek-a-Boo is so fun at this age. A hidden face is really gone, to the infant, then suddenly it's back! Wow!
 - iv. Object permanence tends to show up around 8 months of age.
 - v. There is some evidence to show babies do have some logic.
 - 1. Babies were shown an illustration of the frame of a box. One was normal, one was impossible to construct (it was puzzling to look at). The babies looked at the impossible box longer which seems to show that they recognize it as impossible.
 - 2. Babies also seem to be aware of numbers. If shown 5 toys, then shown only 4, they seem surprised.
 - b. **Preoperational stage**
 - i. This takes place from about age 2 to 6 or 7.
 - ii. Children here are too young to do mental operations.
 - iii. For example, children in this stage do not have a grasp of **conservation**. Conservation is the idea that something can retain or conserve a characteristic while something else changes.
 - 1. For example, a liquid can retain its quantity or volume but change its shape.
 - 2. Children were shown 2 identical glasses filled with a liquid. They obviously had equal volumes. Then one glass was poured into a tall, skinny glass. The liquid naturally filled up higher in the skinnier glass. When asked, "Which has more?" the children usually say the tall, skinny glass has more because it's higher.
 - iv. Children at this stage are **egocentric** – they view the world through their own viewpoints and are unable to view a situation from another person's point-of-view.
 - 1. A child here may cover his or her eyes thinking, if I can't see them, they can't see me.
 - 2. The famous example is asking a 5 year old, "Do you have a brother?" He answers, "Yes, his name's Billy." Then asking, "Does Billy have a brother?" The child answers, "No," because he can't see back to himself as being Billy's brother.
 - v. Children at this stage can develop what's called the **theory of mind**. This is the ability to read another person's intentions.
 - 1. At this stage, children can begin to understand why somebody did something.
 - 2. Because they can understand intentions, they can formulate expectations about what will happen in a situation.

- c. **Concrete operational stage**
 - i. This takes place from about age 6 or 7 to about 12.
 - ii. Children in this stage can think with concrete, physical objects and understand conservation.
 - iii. They cannot think in the abstract, however. In math, a child here will often use his or her fingers (physical things) to add or subtract. They struggle to make the jump to an abstract algebra question, like "If you have 5, how many more do you need to make a dozen?" This would simply be shown as $5 + x = 12$. The variable is an abstract concept.
 - d. **Formal operational stage**
 - i. This begins at about age 12.
 - ii. Thinking changes from being confined to the concrete to including the abstract.
 - iii. Children here can use symbols and variables in their thinking.
 - iv. Children can figure if-then statements. These are systematic or logical reasoning abilities.
 - 1. For example...If Bill is taller than Mary and Mary is taller than Jim, then what can we say about Bill's height in relation to Jim's? A child here would get this right, a child of age 7 may not.
 - 2. Full-scale logical abilities won't kick in until the teen years, but they start here.
4. Piaget ranks as one of the most influential psychologists ever. On education and child development, he is likely #1.
- a. New research suggests he may have underestimated logic among youngsters.

VII. Social development

- A. At about 8 months old, babies have developed schemas for familiar faces. When given over to someone who does not fit the schema (an unfamiliar person) they often grow upset and reach out to the familiar person. This is called **stranger anxiety**.
- B. Mary Ainsworth studied attachment in her famous "**strange situation**" experiment. The **secure attachment** bond between a 12 month old and a parent is strong and obvious.
 - 1. Attachment is aided early-on by physical contact. We respond positively to softness, rocking, feeding, and patting.
 - 2. Being social creatures, all through life we attach ourselves to others who will always "be there for us."
 - 3. We also grow attached to what's familiar.
 - a. Animals grow attached to their parent during what's called the **critical period** - the best time for bonding. Think of the critical period as an open window, the only time it can happen.
 - i. The attachment that occurs at this time is called **imprinting**. It's hard-wired into the critter during the critical period time.
 - ii. Animals can sometimes bond with anything. Birds bond just after hatching to whatever's moving. Normally it's the mother, but they can be trained to bond with almost anything that moves, such as a dog or even a tin can dangling on a string.
 - 1. This was illustrated by **Konrad Lorenz** who imprinted baby geese onto other "mothers".
 - b. People don't have the critical period imprinting. We have a "sensitive period" that's less written-in-stone. Children like what's

familiar – same faces, same stories, same routines. These things mean safety and comfort.

4. When put in strange situations, children react differently.
 - a. Children with mothers or parents that are very interactive do the best in strange situations.
 - i. **"Harlow's monkeys"** became a famous experiment.
 1. The Harlow couple raised monkeys with either a wire mesh "mother" or a wire mesh mother covered with a furry carpet.
 2. The baby monkeys with the furry fake-mothers adjusted better. The physical contact seemed to make all the difference.
 3. The monkeys with the metal "mothers" became panic-stricken with fear.
 4. The conclusion was that physical contact is very important to healthy child-parent attachment.
 - ii. **Mary Ainsworth** studied the attachment of an infant and mother in her "**Strange Situation.**"
 1. The "Strange Situation" had a mother and child at about 12 months playing in a room.
 2. Another unknown adult entered, then the mother left the room, the child became distraught, then the mother returned.
 3. Some parents responded consolingly to the child, other parents not-so-much. The children of responsive parents showed a more "**secure attachment**" than children of less-responsive parents.
 - b. A person's **temperament** is a person's genetic tendency as to how they react and how intensely they react to a situation.
 - i. Even only weeks old, a person's temperament starts to show up as being reactive or calm, fidgety or relaxed, unpredictable or predictable.
 - ii. As children, our temperaments, like being shy or outgoing, tend to persist as we grow older.
 - iii. These findings are supported by twin and adoption studies that try to gauge the nature-nurture influence.
 - iv. Still, the answer to the nature-nurture debate is that both are important (this is always the answer).
 - c. Studies usually focus on the mother, but fathers matter too. When studying thousands in Britain, children with caring, interacting fathers "turned out better" (school, wealth, etc).
 - d. A child's attachment peaks at around 13 months of age.
 - e. **Erik Erikson** said that kids that are securely attached to their parents approach life with a **basic trust**. They see life as a safe, predictable place and approach life with a more "go get 'em" attitude.
5. What happens if a child does not develop an attachment to parents?
 - a. It's a terrible thing for a child to be raised without care, interaction and love. The result is that the person is usually withdrawn and frightened, like the experiments by the Harlows on monkeys "raised" by fake metal mothers.
 - i. These children grow up, have their own kids, then are abusive to their kids at a more frequent rate than is normal.

- ii. Abused children grow up bearing a laundry list of possible problems – brain/hormonal changes, nightmares, depression, increased substance abuse, binge eating, aggression, crime.
 - b. Removing a child from a “happy home” can also have similar negative effects.
 - i. For this reason, courts are very reluctant to remove children from parents.
 - ii. The question arises, “Does day-care hurt a child’s attachment to the parent?”
 - 1. If the day-care is good, the answer is, “No, it doesn’t hurt.” Good is defined as a stimulating, caring environment, with an adult for 3-4 kids.
 - 2. On the good side, kids who spent the most time in day-care at about 5 years old had slightly better language and thinking skills. On the bad side, they were more aggressive and defiant.
 - c. People develop an idea of “self.”
 - i. Babies start to gain “self awareness” at about age 6 months when babies begin to interact with themselves in a mirror.
 - ii. Around 15-18 months, a baby with a spot on his/her nose in the mirror will reach for his/her own nose.
 - iii. By grade-school age, a child identifies him or herself in terms of gender, group membership, personal characteristics, and they compare themselves to others.
 - iv. By age 8 to 10, self-image is very much set.
 - v. By about age 12, most kids have developed a **self-concept** – an idea of who you are as a person. Their “self-esteem” is how you feel about who you are.
- 6. There are three main parenting styles, according to **Diana Baumrind**.
 - a. **Authoritarian** – these parents believe children need rules and must obey them.
 - b. **Permissive** – these parents believe children should make and learn from their own mistakes; they provide few rules.
 - c. **Authoritative** – these parents are demanding and responsive. Rules are set and are explained, the rules are enforced and punishment is given when rules are broken, and rules are eased when the child shows he/she can accept responsibility.
 - i. Like Goldilocks, these parents are “too hard”, “too soft”, and “just right.”
 - ii. Children of authoritative parents have better self-esteem, self-reliance, and interact better with others.
- 7. A person’s culture influences how they raise their kids.
 - a. Western cultures (U.S. and Europe) tend to value individual strength.
 - b. Asian and African cultures tend to be less individual-oriented and more group/family oriented. Anything that honors the individual honors the family; anything that shames the individual shames the family.

VIII. Gender development

- A. In most ways, men and women are the same. 45 of 46 chromosomes are identical. Yet, as always, we focus on the differences. And in case you haven’t noticed, there are differences between men and women.
- B. Self-esteem scores differ slightly. Men are slightly higher in self-esteem scores than women. As to why this is the case, who knows?

1. It likely has something to do with the perceived expectations – the “general view” is that a woman is slender, young and attractive. If a woman feels she doesn’t meet this view, she’ll sadly score herself lower in self-esteem. Don’t fall into this trap girls! You’re beautiful because of who you are!
- C. Women can smell better, express emotions better, are helped more.
- D. Women are also more often depressed, anxious, and have a 10 times greater chance of developing an eating disorder (this goes back to expectations).
- E. Men are 4 times more likely to commit suicide or become alcoholics, and are more often autistic, color-blind, have ADHD, or are anti-social.
1. Men are more aggressive than women.
 2. Men, in most cultures, are the “more dominant” gender socially.
- F. More differences...
1. Men tend to be more accomplishment-oriented, women more relationship-oriented.
 2. Males spend more time alone; women more time with others.
 3. Males are more thing-oriented; women more people-oriented.
 4. Males are more me-reliant than women (and therefore less religious).
 5. These traits peak at late-adolescence/early adulthood and reach a low-point at around age 50.
- G. The nature of gender is a mix of nature and nurture, like most things in psychology.
1. Biologically, males have an extra Y chromosome, females an X.
 2. The Y chromosome tells males to grow the testes and testosterone.
 - a. If a girl has a glandular irregularity and has more testosterone, her genitals may appear boyish. As a girl, she may be tomboyish. Still, she is usually not homosexual and not trans-sexual; she’s a girl.
 - b. Animals, like monkeys, reflect the notion above that girls behave like girls and boys like boys. There is a less clear behavior amongst people. The belief is that the way others interact with a tomboyish girl affects the way she acts – she may act more boyish because she’s treated more boyish (not because she actually is).
 3. The nurture of gender matters as well (as just stated).
 - a. **Gender-role** expectations play a huge role in shaping who we are.
 - b. Our gender identity is our sense of being male or female (isn’t that clear already?!).
 - i. Our **gender type** is how others see us in terms of male/female. Some boys show more “girlish” traits and vice-versa.
 - ii. **Social learning theory** suggests that we learn boyish or girlish traits through observation and imitation. I.e., a girl watches a mother with a baby and mimics her with a baby doll.
 - iii. To children around age 5 or 6, gender differences are huge differences.

IX. Parents and early experiences

- A. Unquestionably, our parents and upbringing shape who we are and our future.
- B. We humans begin at conception – both our lives and our upbringing begin then.
 1. Genetics forms our physical makeup, but the environment (nutrition, love, interaction) fills in the spaces.
 2. A study of rats had one group alone and in a blank environment. A second group had playmates and a stimulating environment. The second group’s brain cells were considerably more developed.
 3. The brain is like a muscle – when it’s used, it grows, when it’s not used, it’s stunted.

- C. The question arises, "How much credit or blame should parents get for a child's successes or failures?"
 - 1. It's popular to blame a person's failures on the parents' failures.
 - 2. In essence, this is the easy way out. People are responsible for their own actions and to blame a parent decades earlier is to shirk self-responsibility.
 - 3. It's not fair or healthy to grow stuck on problems of the past – we can overcome and move on from bad things that happened in our past.
- X. Peer influence
 - A. During childhood and especially in adolescence, we're concerned about fitting in with peers.
 - B. Parents and peers tend to split "responsibilities"...
 - 1. Parents are turned to for the long-term – discipline, order, education, stability and the future.
 - 2. Peers are turned to for the now – popularity, style and interaction.
- XI. Physical development
 - A. Adolescence begins at puberty with the beginning of physical maturity. It's often a conflicting time of being half-child, half-adult.
 - 1. Girls begin puberty earlier than boys and have an earlier growth spurt than boys. At around age 11 to 13/14, girls are actually taller on average than boys.
- XII. Cognitive development
 - A. In early adolescence, pre-teens develop increased reasoning ability. But, they often view their reasoning as being unique (it's not).
 - B. In later adolescence, teens develop the ability to reason abstractly.
 - 1. They can reason things like fairness, right-and-wrong, good-vs.-evil, etc.
 - 2. They can think hypothetically and make deductions based on situations in their minds. Thus, they can point out hypocrisies or problems with parents and get into serious debates.
 - C. **Lawrence Kohlberg** is the heavyweight of moral development, just as Jean Piaget is the heavyweight of cognitive development. Kohlberg gave people moral dilemmas, tough questions, and studied how people figure right and wrong. Like Piaget, Kohlberg came up with stages...
 - 1. **Preconventional morality** – This takes place before age 9 and focuses on a child's self-interest. Something is good if it helps the child (no matter that it might hurt someone else). Rules are obeyed simply because doing so avoids punishment.
 - 2. **Conventional morality** – This takes place around age 9 to the mid-teen years. Things are done because there are rules and they are to be obeyed. It's as if they're being "good citizens" and are following the laws because they are laws, unquestioningly. A person here would say stealing is wrong because there are laws against it.
 - 3. **Postconventional morality** – This begins at later adolescence and sees people doing things out of respect for others rights or human dignity or basic ethical beliefs. A person here would explain that stealing is wrong because it violates another's right to property.
 - 4. Kohlberg asked tough, "What would you do?" questions like, "Is it okay to steal medicine to give to someone who needs them?" He was interested in why the person said it's okay or not.
 - a. Character education today focuses on doing "the right thing." This can be a very ambiguous interpretation though, what's "right" can be answered many ways. Traditionally, religion answers this question with moral absolutes.
 - b. People who delay gratification are more socially responsible and successful. These folks work for the future rather than live for the now.

- XIII. Social development
- A. **Erik Erickson** studied "psychosocial" development. Like Piaget and Kohlberg, he came up with stages of development, 8 in all.
 - B. Erikson believed that at each stage a person faced some type of a crisis. He or she needed to resolve that crisis before moving on to the next stage. Erikson's stages were...
 - 1. Trust vs. mistrust – Infancy – If an infants basic needs are met, they develop trust.
 - 2. Autonomy vs. shame/doubt – Toddlers – They wish to do things on their own, or they're ashamed.
 - 3. Initiative vs. guilt – Preschool – They make and carry out plans, or they're guilty for failing to do so.
 - 4. Industry vs. inferiority – Grade school – Kids feel good about being productive, or they feel inferior for failing to do so.
 - 5. Identity vs. role confusion – Adolescence – Teens test different roles, or they're confused about who they are.
 - 6. Intimacy vs. isolation – Young adults – They try to gain a close loved one, or they feel alone.
 - 7. Generativity vs. stagnation – Middle aged – They gain a sense of adding to the world through family and/or work, or they feel they've no purpose.
 - 8. Integrity vs. despair – Late adulthood – They look back on their lives and either see a sense of worth or failure.
 - C. A person's **identity** a person's stable sense of who they are.
 - D. A person's social identity is how people view themselves in comparison to others; it often involves what makes them unique.
 - E. **Intimacy** often comes after a person has a good sense of his/her identity.
 - F. Adolescents simultaneously grow in their sense of identity and drift away from parents. In return for parents losing influence, a teen's peers gain influence.
 - 1. Teens infamously become very concerned with what "everybody else is doing" and the influence of peer pressure.
 - 2. Teens who withdraw from others often see negative effects – loneliness, low self-esteem, and depression.
 - 3. Parents still have influence in terms "big decisions" like religion and career choices.
- XIV. Emerging adulthood
- A. By the 20s, younger adults still rely on parents until about the late 20s. This trend is getting later and later.
 - 1. Women today begin to physically mature earlier, yet marry later than about 125 years ago.
 - 2. This delay may be due to the fact that kids go to school now, rather than work.
 - B. The term **emerging adulthood** is usually at about age 18 to mid-20s. These younger adults are often "on their own," but also often rely on parents financially and "return home" for the holidays.
- XV. Physical development
- A. Throughout adulthood of say ages 30 to 60, we continue to grow and change.
 - B. Physically, we peak in the early 20s in terms of strength and agility. Then a gradual decline begins.
 - C. At middle-age, after about age 40, the decline accelerates.
 - 1. Women after age 35 are less likely to become pregnant.
 - 2. Women usually reach **menopause** around age 50, when they stop menstruating.
 - D. Later adulthood begins at about age 60.
 - 1. People are living longer nowadays. The worldwide life expectancy in 1950 was 49 years; today it's 67 (it's 80 in developed countries due to better nutrition, health care).

- a. Thus, people as a group grow older and age longer than in the past.
 - b. Females tend to outlive men by about 5 years.
- 2. Older bodies are prone to weather extremes, falls, and infections.
- 3. Our human spirit matters too. Fewer people die on Christmas day or birthdays, but more die just after. This suggests we “hold on” to those milestone days, then tend to give up hope.
- 4. Our senses decline with age.
 - a. After age 70, our senses of sight, smell and hearing take a dramatic nosedive.
 - b. Also after age 65 or 70, fatal accidents tend to go up sharply.
- 5. After about 65, our immune system weakens, but we’ve also built up many antibodies that ward off short-term things like colds.
 - a. Older people take more time to process things mentally. Our reaction times decline which gives rise to automobile accidents.
 - b. Our brains also physically grow smaller, by about 5% by age 80. The frontal lobe atrophies and makes us less inhibited.
 - c. Physical activity helps with brain growth and neurogenesis. So, staying active physically is important for older folks mentally.
- 6. Dementia may also be brought on by a small strokes, a brain tumor, or alcohol dependence.
- 7. Alzheimer’s disease hits about 3% of people.
 - a. Memory goes first, then reasoning. A declining sense of smell signals the onset of Alzheimer.
 - b. Later symptoms are loss of emotions, disorientation, no inhibitions, and incontinence.
 - c. Causes are the loss of brain cells, deteriorated neurons that no longer produce acetylcholine (a chemical messenger).
 - d. Staying physically active, avoiding obesity, and keeping the mind active (as with reading) helps ward off Alzheimer’s.

XVI. Cognitive development

- A. The question is, “As people get old and their bodies decline physically, does their mind also decline?”
- B. Memory seems best around age 20. Experiments seem to show that memory declines with age.
- C. A broader view of age’s impact on intellect unfolded in stages...
 - 1. Phase 1 – Cross-sectional studies (across age groups) showed that intelligence test scores went down with age.
 - 2. Phase 2 – Longitudinal studies (follow the same people over many years) showed quite a bit of stability in intellect with age.
 - 3. Phase 3 – The results are mixed on the impact of age on intellect. Younger people think faster, but older folks have deeper understanding.
 - a. Crystallized intelligence – our sum quantity of knowledge (like vocab words) – increases up to old age.
 - b. Fluid intelligence – our reasoning speed and ability (like solving a puzzle) – decreases up to old age.

XVII. Social development

- A. The belief in a “mid-life crisis” seems to be a myth.
- B. We have a **social clock** that tells us the supposed best time to do things (move out on own, get married, have kids, etc.). Still, random, chance encounters in life matter – especially when falling in love.
- C. For adults, two things seem to top all others: love and work.
 - 1. Love (or intimacy, attachment) is a close connection with that special someone with whom to share life’s journey.
 - a. Marriages last longer when couples wait to marry and are educated.

- b. Couples who live together before marriage are more likely to divorce. Kids born to cohabiting parents are five times more likely to see parents divorce than those born to married parents.
 - c. Married couples report greater happiness.
 - d. Children bring amazing blessings as well as challenges. When kids leave home, the parents happiness usually increases.
- 2. Work (or generativity, achievement, productivity)
 - a. Many adults define themselves by their jobs.
- 3. Happiness is reported by about 80% of people over age 15. It dips a little bit in the middle years (35-50) then rises around age 60. Older folks seem less negative, more positive.
- 4. Likely the most challenging thing a person faces is the death of a spouse or a child. An unexpected death is even more traumatic.
 - a. There are no set-in-stone stages of grief, like denial, anger, yearning for the lost person. But, anger peaks around a month later, yearning about 4 months later.
 - b. Talking to family and friends helps the grieving. Helping others also helps heal the grieving.
 - c. Women are 5 times more likely to lose a husband to death than the other-way-around.